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DIALOG(R)File 351:Derwent WPI
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WPI Acc No: 2001-443555/200148
Related WPI Acc No: 1998-428196; 2001-160394; 2001-191964; 2001-211675;
  2001-227246; 2001-282398; 2001-308928; 2001-336246; 2001-344491;
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  2001-356628; 2001-375368; 2001-379603; 2001-382156; 2001-382157;
  2001-398732; 2001-398749; 2001-406342; 2001-433210; 2001-433216
XRAM Acc No: C01-134281
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 Polyorganosiloxane-based composition for forming film comprises two
 products obtained by hydrolyzing and condensing silane compound in
 presence of acid and alkali catalysts respectively
Patent Assignee: JSR CORP (JAPS )
Inventor: HAYASHI E; KONNO K; KUROSAWA T; SHIOTA A; YAMADA K; YOUNGSOON
S
Number of Countries: 029  Number of Patents: 005
Patent Family:
Patent No      Kind   Date     Applicat No     Kind   Date      Week
EP 1090967     A2  20010411  EP 2000121101    A   20000928  200148  B
JP 2001164186  A   20010619  JP 2000220271    A   20000721  200150
KR 2001077882  A   20010820  KR 200056972     A   20000928  200212
US 6410150     B1  20020625  US 2000669859    A   20000927  200246
TW 530083      A   20030501  TW 2000120207    A   20000929  200373

Priority Applications (No Type Date): JP 99275553 A 19990929
Patent Details:
Patent No  Kind Lan Pg   Main IPC     Filing Notes
EP 1090967    A2 E  15 C09D-183/04
   Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE
IT
   LI LT LU LV MC MK NL PT RO SE SI
JP 2001164186 A     14 C09D-183/04
KR 2001077882 A        C08L-083/04
US 6410150    B1       B32B-009/04
TW 530083     A        C09D-183/04

Abstract (Basic): EP 1090967 A2
        NOVELTY - A composition comprises a product of hydrolysis and
    condensation obtained by hydrolyzing and condensing at least one
silane
    compound, in the presence of an alkali catalyst and a product of
    hydrolysis and condensation obtained by hydrolyzing and condensing
at
    least one silane compound in the presence of an acid catalyst.
        DETAILED DESCRIPTION - A composition comprises (a) a product
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obtained by hydrolyzing and condensing at least one silane compound of formula RaSi(OR1)4-a (I), Si(OR2)4 (II) or R3b(R4O)3-bSi-(R7)d-Si(OR5)3-cR6c (III) in the presence of an alkali catalyst and (b) a product obtained by hydrolyzing and condensing (I), (II) or (III) in the presence of an acid catalyst.

R=H, fluorine or monovalent organic group;
R1 - R6=monovalent organic group;
R7=O, phenylene or -(CH2)n-;
n=1 - 6;
a=1 or 2;
b and c=0 - 2; and
d=0 or 1.

INDEPENDENT CLAIMS are also included for the following: (A) forming a film by applying the composition on a substrate and then heating the composition; and (B) a semiconductor device having the insulating film.

USE - For forming film, preferably insulating film (claimed), used as coating film for semiconductor devices such as LSIs, system LSIs, DRAMs, SDRAMs, RDRAMs and D-RDRAMs; protective films such as surface coat films for semiconductor devices; interlayer insulating films for multilayered printed circuit boards; and protective or insulating films for liquid-crystal display devices. Also, useful in application in which the composition is applied to silicon wafer, SiO2 wafer, SiN wafer, glasses, ceramics and metals.

ADVANTAGE - The film has a low dielectric constant, high modulus of elasticity, low water absorption, good storage stability and low film density.

pp; 15 DwgNo 0/0

Technology Focus:

TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preferred Composition: A weight average molecular weight as determined by GPC (refractive index, viscosity or light scattering) of component (a) is 50,000 - 10,000,000 and of component (b) is 500 - 300,000. Component (a) contains a product of hydrolysis of condensation of (II) (5 - 75 wt.%)(in terms of the product of complete hydrolysis and condensation). Component (a) is the product of hydrolysis and condensation of (I) and (II). The composition comprises (parts by weight) component (a) (100) and component (b) (1 -

900) (in terms of the product of complete hydrolysis and condensation)
and has a pH of at most 7.
Title Terms: BASED; COMPOSITION; FORMING; FILM; COMPRISE; TWO; PRODUCT; OBTAIN; CONDENSATION; SILANE; COMPOUND; PRESENCE; ACID; ALKALI; CATALYST; RESPECTIVE
Derwent Class: A26; A85; G02; L03; P73; U11
International Patent Class (Main): B32B-009/04; C08L-083/04; C09D-183/04
International Patent Class (Additional): C08G-077/08; C09D-183/02; C09D-183/14; H01L-021/312
File Segment: CPI; EPI; EngPI
Manual Codes (CPI/A-N): A06-A00E1; A06-A00E2; A07-A03; A12-B01C; A12-E07C; G02-A05; G02-A05B; L03-H04E1; L04-C22
Manual Codes (EPI/S-X): U11-C05A
Polymer Indexing (PS):
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  *008* 018; D67; R01713 D00 H- N- 5A; C999 C102 C000; C999 C306
  *009* 018; D60; R00247 D01 D11 D10 D50 D60 D82 F36 F35; R00901 G0760
        G0022 D01 D12 D10 D51 D53 D59 D60 D84 F37 F35 E00 E01; C999
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        C000; C999 C306; C999 C340
  *010* 018; D01 D11 D10 D50 D86 F27 F26 F34 D84; R00245 D01 D11 D10
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        D82 F27 F26; A999 A475; A999 A771
  *011* 018; D01 D11 D10 D50 D87 F23; A999 A475; A999 A771
Derwent Registry Numbers: 0137-U; 0245-U; 0247-U; 0901-U; 1713-U; 1740-
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